

## REMARKS

Claims 1-9 are pending in the application. Claims 1-9 have been rejected and are currently under consideration. Claims 1 and 9 have been amended and new claims 10-12 have been added.

Reconsideration and allowance are respectfully requested.

The Examiner has rejected claims 1-9 as being unpatentable under 35 U.S.C. § 102(b) in view of Zhao et al. (U.S. Patent No. 5,558,717).

Claim 1 has been amended to recite, in part:

a diffuser partitioning the inner space of the chamber into first and second partitions and having an extension extended out from a boundary; and

an insulating frame disposed between the chamber and the diffuser, said insulating frame being disposed on the extension of the diffuser.

(Emphasis added.)

Applicant respectfully submits that the Zhao reference cited by the Examiner fails to teach or suggest the claimed diffuser extension. Instead, the Zhao reference teaches a structure as follows:

The circular gas distribution faceplate 122 is supported by a surrounding flange 125, shown in FIG. 6. The flange 125 rests on and is sealed to the top of the insulator 120 by an O-ring seal 274 as seen in FIGS. 1, 2, and 6. (Col. 15, lines 52-56; emphasis added.)

In other words, the flange 125 supporting the gas distribution faceplate 122 extends over a surface of the insulator 120. Accordingly, the insulator 120 is under the flange 125. In contrast, the insulating frame recited in claim 1 is disposed on the extension of the diffuser. This arrangement is not taught by Zhao.

Accordingly, the Examiner's rejection of claim 1 under § 102(b) is unsupported by the Zhao reference. Therefore, Applicant respectfully requests withdrawal of the rejection of claim 1 and claims 2-8, which depend from claim 1.

Claim 9 has been amended to depend from claim 1. Accordingly, for at least the reasons provided above with respect to claim 1, the Examiner's rejection of claim 9 under § 102(b) is unsupported by the Zhao reference. Therefore, Applicant respectfully requests withdrawal of the rejection of claim 9.

The Examiner has rejected claims 1, 2, and 4-9 as being unpatentable under 35 U.S.C. § 102(b) in view of Koai et al. (U.S. Patent No. 6,106,625).

The Koai reference teaches an arrangement similar to the Zhao reference, in which:

The lid isolator 64 is made of an electrically insulating ceramic to isolate the RF-biased showerhead 24 from the grounded chamber body 20. A flange 65 of the showerhead 24 rests on a flange 67 of the isolator 64 through an upper, outer, bottom face 68 located above its ledge 52 supporting the gas box plate 36. Law et al., *ibid.*, disclose an alternative arrangement of the showerhead isolator and the gas box plate. (Col. 3, lines 47-54; emphasis added.)

In the TiN chamber, a showerhead 200 includes a long upwardly extending rim 202 and a wide outwardly extending flange 204 attached to the top of the rim 202. A gas box plate 206 including the convolute cooling water channel 162 has a wide outwardly extending flange 208 resting on the showerhead flange 204, thereby providing good thermal contact though over a longer path. The showerhead flange 204 rests on the ceramic or quartz lid isolator 174. (Col. 10, line 62 - col. 11, line 3; emphasis added.)

As can be seen in the figures (specifically, FIGS. 1, 8, 9, and 12), the showerhead flange taught by Koai extends over the surface of the isolator. In contrast, the insulating frame recited in claim 1 is disposed on the extension of the diffuser.

Accordingly, the Examiner's rejection of claim 1 under § 102(b) is unsupported by the Koai reference. Therefore, Applicant respectfully requests withdrawal of the rejection of claim 1 and claims 2 and 4-9, which depend from claim 1.

#### Information Disclosure Statement Filed February 18, 2005

Applicant thanks the Examiner for considering and returning the Information Disclosure Statement filed on February 18, 2005, a copy of which is attached hereto. Applicant notes that while reference AL (untranslated Japanese Publication No. 2-73624) was initiated by the Examiner, reference AQ (English translation of Patent Abstract for Japanese Publication No. 02-073624) was not initialed. Although both references relate to the same Japanese Publication, reference listing AL corresponds to the untranslated Japanese Publication, and reference listing AQ corresponds to the English translation of the Abstract.

Applicant respectfully requests that the Examiner initial reference AQ and return the attached Information Disclosure Statement to indicate that the English language translation of the Abstract for Japanese Publication No. 02-073624 was considered.

CONCLUSION

In light of the foregoing, Applicant respectfully requests that the rejections be withdrawn and the claims allowed. Should any other action be contemplated by the Examiner, it is respectfully requested that he contacts the undersigned at (408) 392-9250 to discuss the application.

**EXPRESS MAIL LABEL NO.  
EV 552 910 155 US**

Respectfully submitted,



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: LEE, Ho  
Assignee: SAMSUNG ELECTRONICS CO., LTD.  
Title: CHEMICAL VAPOR DEPOSITION APPARATUS  
Application No.: 10/750,023 Filing Date: December 31, 2003  
Examiner: Unknown Group Art Unit: 1734  
Docket No.: AB-1350 US Confirmation No.: 9344

San Jose, California  
February 18, 2005

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**INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR § 1.97(b) WITH  
CERTIFICATION UNDER 37 CFR § 1.97(e)(1)**

Dear Sir:

Pursuant to 37 CFR § 1.56, § 1.97 and § 1.98, the documents listed on the accompanying form PTO-1449 are called to the attention of the Examiner for the above patent application. Copies of these documents are enclosed. The documents were first cited in an Office Action dated January 25, 2005 by the Korean Patent Office in a corresponding Korean Patent Application No. 10-2003-0023398.

Citation of these documents shall not be construed as:

1. an admission that the documents are necessarily prior art with respect to the instant invention;
2. a representation that a search has been made, other than as described above; or
3. an admission that the information cited herein is, or is considered to be material to patentability as defined in § 1.56(b).

The undersigned hereby certifies in accordance with § 1.97(e)(1) that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.



Statement under 37 C.F.R. §1.704(d)

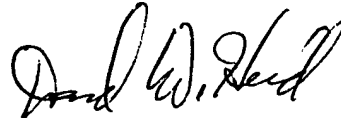
Each item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in § 1.56(c) more than 30 days prior to the filing of the Information Disclosure Statement.

No fee is believed to be required. If a fee is required for this Information Disclosure Statement, please charge the fee to Deposit Account No. 50-2257. This paper is being submitted in duplicate.

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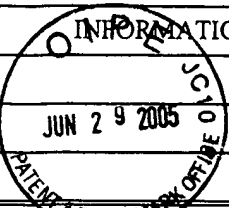
Respectfully submitted,



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Sheet 1 of 1

U.S. Department of Commerce, Patent and Trademark Office		Atty. Docket No.	Serial No.
		AB-1350 US	10/750,023
		Applicant(s)	
(Use several sheets if necessary)		LEE, Ho	
		Filing Date	Group
		12/31/2003	1734

### U.S. Patent Documents

*Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	AA					
	AB					
	AC					
	AD					
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					
	AK					

### Foreign Patent Documents

							Translation	
		Document	Date	Country	Class	Subclass	Yes	No
	AL	2-73624	03/13/1990	Japan				X
	AM							
	AN							
	AO							
	AP							

### OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	AQ	Patent Abstracts of Japan, Publication No. 02-073624, 03/13/1990
	AR	

Examiner	Date Considered
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.